

Agenda

- Introductions
- CR key asks around 2027+ standards
- Fuel Economy Survey
- EV/LCFS Survey
- Vehicle Price Trends Report

About Consumer Reports

- Independent nonprofit member organization representing **6 million consumers**
- Testing and rating of vehicles
- Survey and other research
- Goal: Affordable, Clean and Safe Mobility Choices for All Consumers



CR's Asks on LDV GHG rules - Stringency

- CR's original 2021 ask of a 60% reduction in ghg emissions from new vehicles from 2021 levels by 2030 appears too conservative in light of rapid growth in consumer demand for EVs over the past 2 years (~80-85 g/mi w/ 0g/mi).
- CR now finds that stringency as high a **75% reduction** in GHG emissions by **2030** is feasible and we strongly suggest that EPA at least fully explore an alternative that's at least this stringent (~55-60 g/mi).
- CR suggests that the GHG rule be set through 2032 to align with the timeframe of the Inflation Reduction Act.
 - If a rule is set through **2032**, CR finds that stringency as strong as a **85-90% reduction** from 2021 levels would be feasible (~25-30 g/mi).

CR's Asks on LDV GHG rules - Details

- Ensure the rule gives a strong incentive to continue reducing ICE vehicle emissions.
- Eliminate the regulatory incentive to classify vehicles of the same footprint as light trucks vs. cars.
- Find a way to incentivize efficiency for electric vehicles.
- Properly account for likely real world usage patterns for PHEVs.
- Remove the ability for any vehicle to count less than 0g/mi against the standard.
- Include repair and maintenance savings for electrified vehicles in cost-benefit analysis.

2022 Fuel Economy Survey Highlights

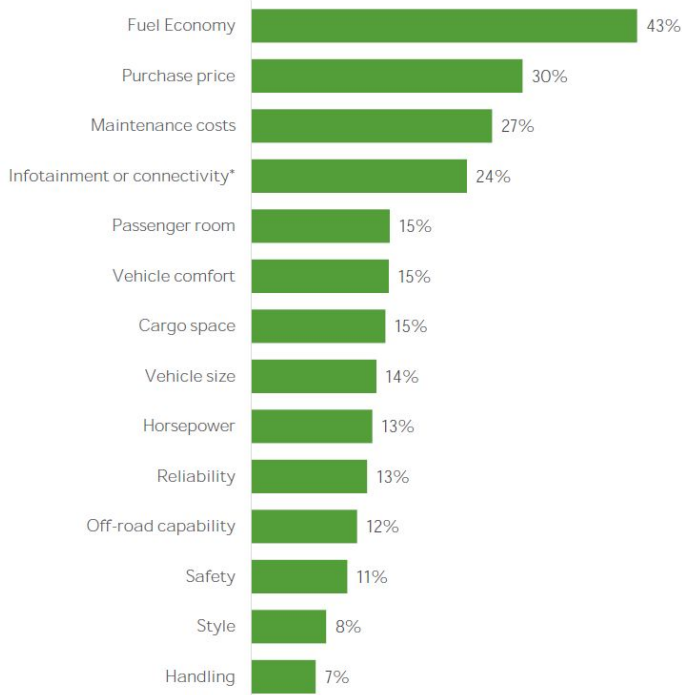
- 95% of American drivers say that fuel economy is at least somewhat important to them when considering what vehicle to purchase or lease.
 - 70% of American drivers say that fuel economy is “very important” (41%) or “extremely important (29%) to them when considering what vehicle to purchase or lease.
- Most Americans (85%) agree or strongly agree that automakers should continue to improve fuel economy for all vehicle types.
 - 82% agree or strongly agree that making larger vehicles more fuel-efficient is important.

2022 Fuel Economy Survey Highlights

- Fuel Economy is by far the #1 attribute consumers want to see improved on their vehicles
- More than 3x as many consumers want to see fuel economy improved than horsepower improved

Thinking about the vehicle you drive most often, which three attributes have the most room for improvement?

Select up to three responses.



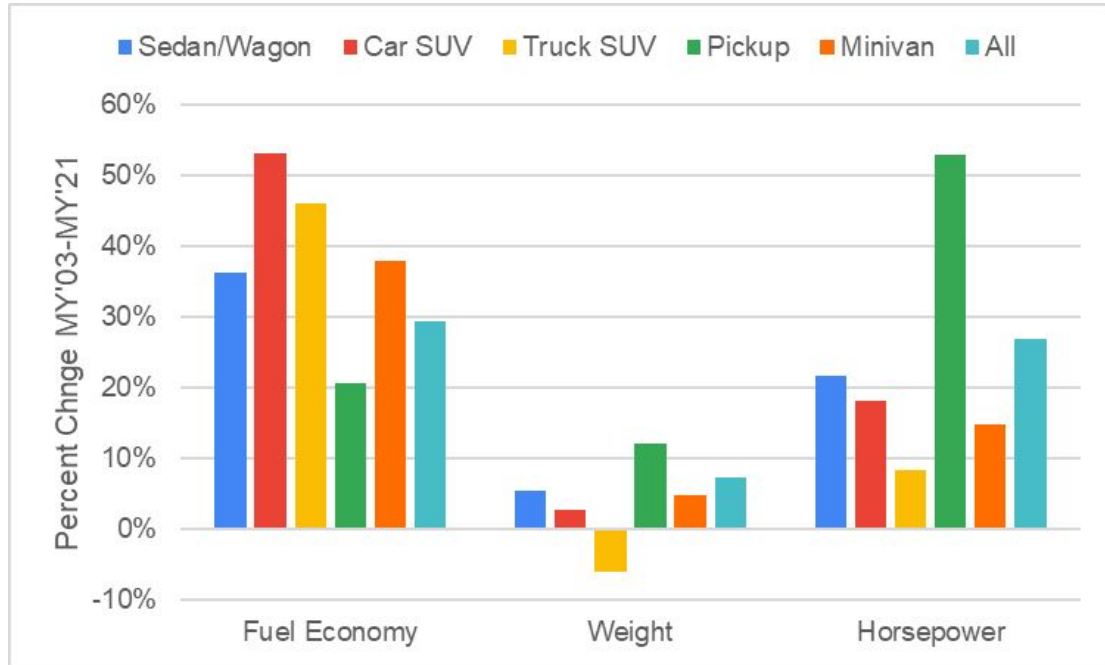
Base: Respondents who drive. *Item wording abbreviated to fit.

Vehicle Price Trends Results

- Consumer Reports buys and tests around 50 new vehicles every year, purchased directly from dealers, just like consumers would.
- A statistical analysis of our inflation adjusted purchase data from 2003-2021 found:
 - *Vehicle Classes*
 - **No statistically significant change in price for 5 of 7 vehicle classes**
 - A statistically significant decrease in price for midsize cars
 - A statistically significant increase in price for large SUVs
 - Large SUVs saw smallest increase in fuel economy and
 - *Vehicle Models*
 - **No statistically significant change in price for 47 of 51 models**
 - A statistically significant decrease in price for 2 models
 - A statistically significant increase in price for 2 models.

Vehicle Price Trends Benefits

Change in Vehicle Characteristics from MY'03 to MY'21



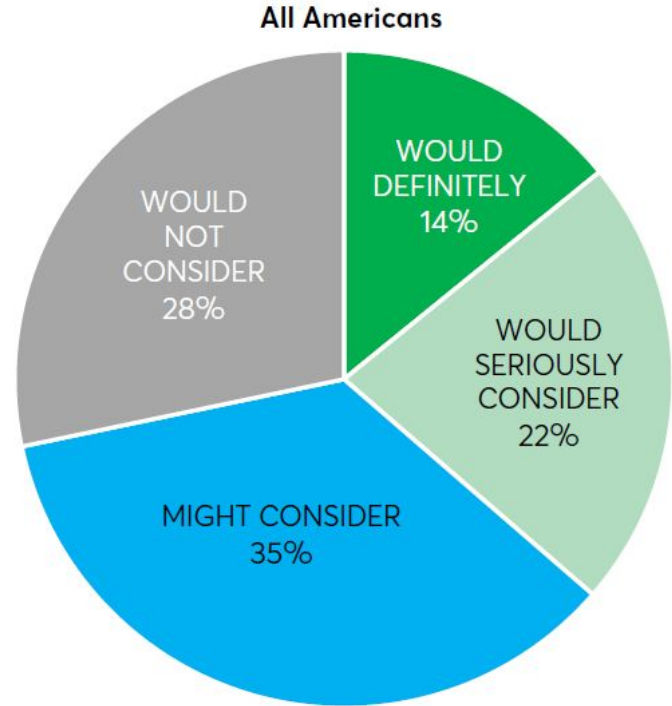
Vehicle Class	Vehicle Lifetime Fuel Savings*
Sedan	\$7,000
Car SUV	\$11,000
Truck SUV	\$12,000
Pickup	\$6,000
Minivan	\$9,000

*200,000 mile lifetime at \$3.00/gallon

Pent Up Demand - Survey Results

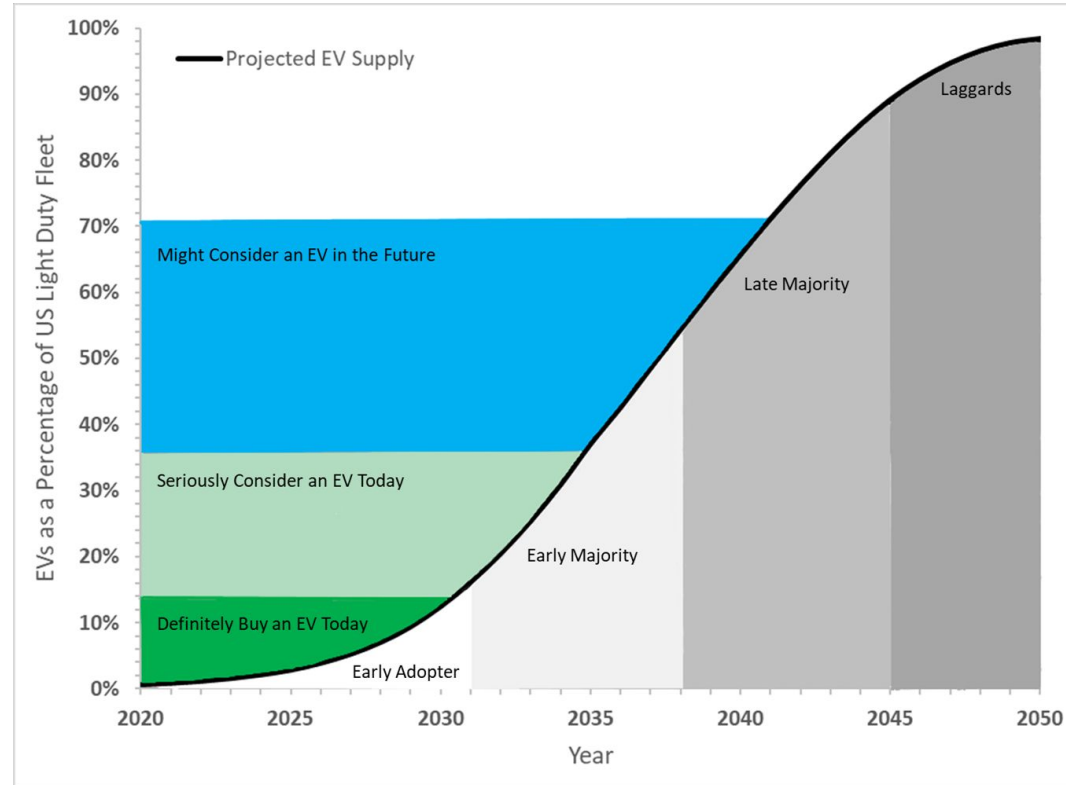
- 14% represents 36m EV-ready buyers in 2022
 - Up from 4% or 10m in 2020, an increase of 26m Americans.
 - Compares to 800k EVs sold in 2022 vs. 250k in 2020.
 - On a percentage basis demand increased even faster than supply.
- 36% who would at least seriously consider an EV today = 93m Americans.
- At least 1.9m Americans have put down a paid deposit on an EV they're still waiting for on just 10 vehicles where data was available.

Likelihood of buying an EV today

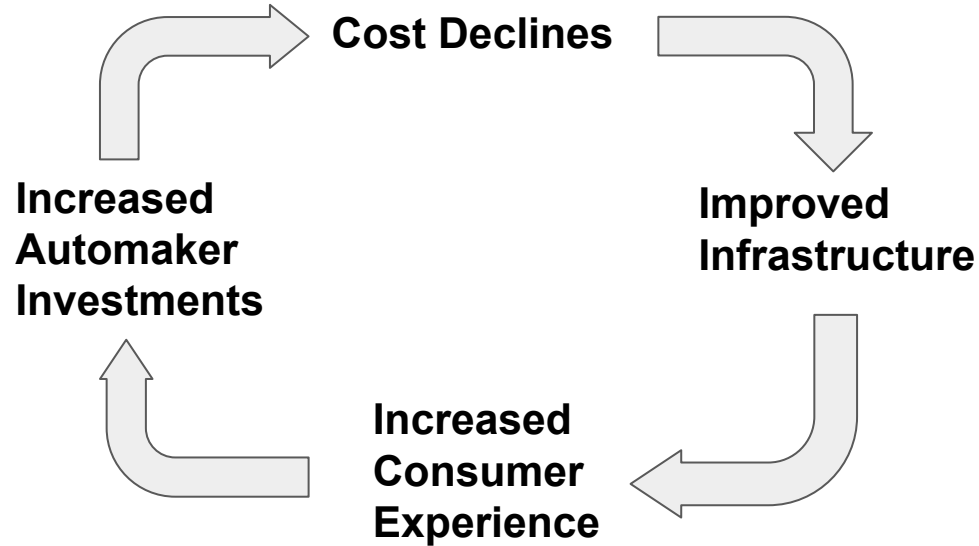


Pent Up Demand - Fleet Turnover

- Projected supply curve (new sales):
 - 2026 - 17%
 - 2030 - 50%
 - 2035 - 100%
- Early adopters demand satisfied by 2031
- Early majority demand satisfied by 2038
- Consumers “seriously considering” an EV in 2022 demand not satisfied until 2035.
- Even with strong action by EPA, waitlists likely to persist



4 Major Trends are Driving Rapid EV Demand Growth



Trends - Cost Declines

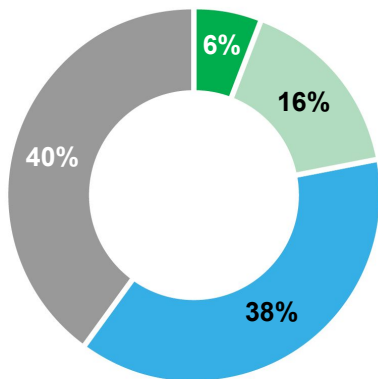
- [Recent ICCT research](#) estimates cost parity for 250-300 mile BEV between 2027 and 2029 for all vehicle classes with no incentives.
- [A follow-on analysis](#) found that with the IRA incentives for both EV purchases and domestic battery production EVs may be cheaper on average as soon as this year and by 2025 at the latest in the most conservative scenario.
- Most automakers are just starting to build their first purpose built BEVs and there are tons of cost efficiencies to be gained in coming years through experience, learning, and economies of scale.

Trends - Improved Infrastructure

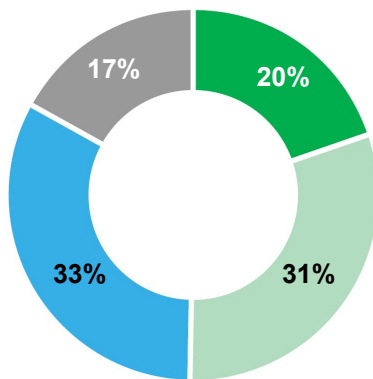
- The Bipartisan Infrastructure Law includes \$7.5B in federal investment in EV charging.
- Yesterday the WH announced private commitments that add up to at least an additional 10k fast chargers and nearly 100k lvl2 chargers in the near future.
 - Included in this announcement was Tesla agreeing to open up portions of their charging network to all other EVs.
- Lack of confidence in charging infrastructure is the #1 concern for Americans when considering an EV.

The more experience consumers have with EVs the more likely they are to want to buy one

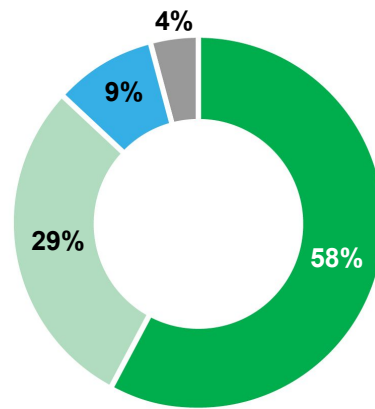
Which Statement below BEST describes your thoughts on buying or leasing an electric-only vehicle if you were to buy or lease a vehicle today?



Experience Score 0



Experience Score 2



Experience Score 4

- I would definitely buy or lease an electric-only vehicle
- I would seriously consider buying or leasing an electric-only vehicle
- I might consider getting an electric-only vehicle in the future, but not if I were to buy or lease a vehicle today
- I would not consider getting an electric-only vehicle

Trends - Automaker Investments

- Automakers have announced [\\$210B](#) in domestic EV investments.
- This backs up a wide range of [strong commitments](#) on future EV volumes that they have made.
- Many automakers are attempting to accelerate their plans to try and catch up with overwhelming consumer demand for their vehicles.
- A virtuous cycle is formed
 - Accelerated EV supply will improve unit economics and help drive down prices.
 - More EVs on the road will create more demand for EV charging, improving the economics of charging networks.
 - More EVs in people's driveways means more people will gain exposure to them, increasing their interest in owning one.

Beware Declining Demand for ICE Vehicles

“One third of Americans who are currently in the market for a car or truck, who are only shopping for a **new vehicle**, are *not even considering* a conventional, non-hybrid gasoline vehicle.”

[Link to CR 2022 Car Buying Survey](#)

Pent Up Demand Summary

- Consumer demand for EVs greatly exceeds supply and is growing faster than supply.
- A virtuous cycle driven by key federal legislation, state policies, and consumer dynamics is likely to drive further acceleration in EV demand.
- Current EV production plans appear poised to leave most Americans waiting a long time for the opportunity to own an EV.
- Survey data suggests that many of those consumers may choose not to buy vehicles they perceive to soon be obsolete, while they wait for their opportunity to buy an EV, which poses a significant risk to automakers who respond too slowly to consumer demand for EVs.